

ISTEP+Fall 2007 Indiana Statewide Testing for Educational Progress

English/Language Arts • Mathematics • Science Grade 7



Indiana Department of Education

Use only a Number 2 pencil to respond to the questions in this book. Responses written in pen CANNOT be scored.



Whenever you see this icon, you will be doing a writing activity. Your writing will not be scored on your personal opinions or choices, but will be scored objectively on

- how clearly you address the prompt
- how well you organize your ideas
- how effectively you express yourself
- how consistently you use correct paragraphing, grammar, spelling, and punctuation

Be sure to use the rules of Standard English. Standard English is the English commonly used in formal writing. It does not include slang or jargon.

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"Prairie Rescue" by Jennifer Owings Dewey from *Highlights for Children* Magazine's December 1993 issue, copyright © 1993 by Highlights for Children Inc., Columbus, Ohio. Used by permission.

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Test 3: English/Language Arts

A Large Donation

Read the writing prompt below and complete the writing activity.

A wealthy businessperson has donated a large sum of money to your school. The money is to be used for making changes to the existing building, redesigning the school grounds, and/or purchasing new equipment and materials. Your school is sponsoring a contest to come up with the best plan to use the money. If your school had this money to spend, what would your plan be? What would your "new" school look like?

Write an essay in which you explain how this large donation should be spent. Create a plan in which you describe in specific detail exactly how your school would change.

Be sure to include

- a clear plan on how the money should be spent
- specific details about exactly what would be added or changed at your school
- a description of what your school would look like after the improvements had been made
- an introduction, a body, and a conclusion to your essay



Test 3



DO NOT WRITE HERE

Use the Pre-Writing/Planning space or additional paper for notes, lists, webs, outlines, or anything else that might help you plan your writing. Then write your essay on the lined pages. Be sure to write neatly. Using the Editing Checklist on page 9, check your writing for correct paragraphing, grammar, spelling, punctuation, and the use of Standard English.

NOTE: Only your writing on the lined pages in this book will be scored.

Pre-Writing/Planning



Pre-Writing/Planning

Go On

Essay

Title:		-
		Go On

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Page 6

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Test 3

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Test 3

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Page 8

Test 3

- Check your capitalization and punctuation.
- Spell all words correctly.
- Check for sentence fragments or run-on sentences.
- Keep verb tense consistent.
- Make sure subject and verb agree.
- Use words according to the rules of Standard English.
- Remember to paragraph correctly.



Test 4: English/Language Arts

For Test 4, you will read two passages. You will answer questions based on each passage. Then you will write an essay on a related topic.

You may be familiar with a famous children's book called *Charlotte's Web*, which is a story about a friendship between Charlotte, a spider, and a pig named Wilbur. The first passage you will read, "On the Farm: E.B. White," tells about the life of the man who wrote *Charlotte's Web* and many other books for children.

Now read "On the Farm: E.B. White" and do Numbers 1 through 6. You may look back at the passage as often as you like.

Go On

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On the Farm E.B. White

Born in Mount Vernon, New York, 1899 Died in North Brooklin, Maine, 1985

American writer known for essays and children's books: Charlotte's Web, Stuart Little, and The Trumpet of the Swan

by Kathleen Krull

"Hello, Eileen? This is Elwyn White." He had practiced this greeting so many times that when the mother of the girl he wanted to date answered the phone instead of the girl herself, he was unable to change the words. How embarrassing! Eileen still went out with him, for as nervous and uncomfortable as Elwyn Brooks White could be, he was charming, too.

The youngest of six children, White (always called Andy after college) had a happy, secure childhood. He grew up to be a private person who lived just the way he wanted to, once he figured out what that was. As a young man he played the piano, tried being a reporter, and drove a Model T Ford (named Hotspur, for a character from a Shakespeare play) across the country.

When he was twenty-six, he bought the first issue of a new magazine called *The New Yorker*, and for the rest of his life he wrote for it. He even married it, in a way,

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when he wed Katharine Angell, who was seven years older than he was and his boss. His idea of a compliment was to tell her, "You smell like pencil shavings."

The Whites, with Katharine's two children from an earlier marriage and their own son, Joel, moved to a remote farm in Maine. A woodshed connected the barn and the twelveroom house; White thought the place looked like a writer's house. He and Katharine had large offices. His looked out toward the road and mailbox and had a grand piano.

He liked to be the first person up in the mornings, lighting the fires, reading "Dear Abby," making coffee. White loved farm chores so much (and there was a neverending supply of them) that he tended to write only on rainy days. To concentrate, he often wrote in the boathouse at the nearby lake. To relax, he hopped on his three-speed bike and took off. Evenings were for reading aloud, and Thursday nights were set aside for reading *Time* magazine.

White's favorite book was Henry David Thoreau's *Walden*. He took it everywhere and gave copies away as gifts. The book he thought was most important to the survival of the world was Rachel Carson's *Silent Spring*;¹ he was concerned about

¹ Silent Spring: a book, written in 1962, that warned the public about the effects of misusing pesticides and called for a change in the way humans viewed the natural world



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E.B. White at work for The New Yorker magazine, 1955

pollution of all types. White was also an advocate of world peace—he thought all countries should have the same flag. Some newspapers called White's beliefs dangerous.

"Keep it simple!" was White's favorite expression. He didn't want to own too many possessions, except for his car (a Mercedes) and his boats (he preferred sailing to writing). He always had dogs; his last two were named Jones and Susy.

White had a terrible fear of public speaking, and he didn't try to conquer it. He won many awards but always found an excuse for not attending the ceremonies. He was sometimes so withdrawn that he seemed forbidding—unless he was showing off his latest goslings, ducklings, or chicks. As he grew older, he hardly ever left the farm

White was one person who wasn't afraid of spiders. Once he let hundreds of them hatch and build webs atop his dresser. Pigs also fascinated him, so much that he began wondering why he took such good care of a pig when he was only going to kill and eat it. These interests inspired the creation of the most famous spider and pig in literature: White wrote Charlotte's Web in his boathouse. An instant best-seller, it is still the top-selling children's paperback novel today.

except for doctor appointments.

White complained of so many ailments that his friends teased him about hypochondria.² He was known to wear a surgical mask in public to protect him from contagious diseases.

When Katharine died. White mourned that he had "lost the one thing that seemed to make any sense in my life." He lived for eight more years, still bike-riding and canoeing. He died at age eighty-six.

There were crowds of people at his memorial service; but White himself would have dreaded the thought of attending such a ceremony in his honor.

Go On

²hypochondria: worrying about being ill when illness is neither present nor likely

4	Which statement from	n the naccar	na avnrassas	an OPINION2
	Which Statement non	i lile passaç	je expresses	an orthion:

- O "For as nervous and uncomfortable as Elwyn Brooks White could be, he was charming, too."
- "As a young man he played the piano, tried being a reporter, and drove a Model T Ford."
- "When he was twenty-six, he bought the first issue of a new magazine called The New Yorker."
- O "He always had dogs; his last two were named Jones and Susy."
- 5 The photograph, the information in the box, and one section of the passage all include evidence to support the idea that White
 - enjoyed being famous
 - O wrote only on rainy days
 - O had an affection for animals
 - O worked long hours as a writer
- 6 Imagine you are writing a research paper about E.B. White's career as a writer, and this passage is one of your sources.

Provide TWO different details from the passage that you would use as notes for this research paper.

- 1)_____
- 2)_____

English/Language Arts

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You will now read "Prairie Rescue," a passage about a veterinarian who saves injured wildlife in New Mexico. After you read the passage, you will answer some questions. Then you will write an essay on a related topic.

Now read "Prairie Rescue" and do Numbers 7 through 13. You may look back at the passage as often as you like.

Prairie Rescue

by Jennifer Owings Dewey

When Kathleen Ramsay drives to work, she doesn't always look at the road. Instead, she scans the weedy acres that run alongside the New Mexico highway, checking on colonies of prairie dogs and burrowing owls. She's a veterinarian, and I was with her one morning when her scouting paid off.

Kathleen was driving slowly, watching from her truck window, when she saw an owl standing alone on a mound of earth around a burrow. The owl leaned heavily to one side, as if it might tip over. Kathleen thought that meant trouble—maybe a broken leg.

She pulled over, hopped out of her truck, and walked toward the owl. Other owls scattered when she came near, diving beak first into burrows, chattering and afraid. In New Mexico, it's not unusual to see owls scampering into the ground instead of soaring from tree to tree. Burrowing owls make their home below the earth, often sharing rooms and tunnels with prairie dogs.

The hurt owl stayed put. It glared at Kathleen defiantly.

Kathleen has fixed a lot of injured animals in her eight years as an



animal doctor. She was not put off by the angry little owl, even when it hissed and cackled.

As she got closer, the owl lowered itself and brushed the earth with its breast-feathers. It spread its twenty-four-inch wings and buzzed like a furious rattlesnake. This was no accident. Burrowing owls often pretend to sound like snakes to scare enemies off.

In a flash Kathleen captured the owl. The bird's slim, fragile body quivered in terror. It stared at Kathleen with huge yellow eyes.

"You've never been captured by a human before, have you, little guy?" she said.

Go On

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Kathleen stuffed the owl down the

front of her shirt, where the darkness

would silence it. Birds become still

when they cannot see where they

are. During the drive to Kathleen's

fluttered in rhythm with Kathleen's.

At the clinic, Kathleen saw that the owl's left leg was broken, and

clinic, the owl's rapid heartbeat

she decided to perform surgery.

She put a plastic anesthesia mask

over the owl's small face to put him

in the flesh of the broken leg. She

found the break, inserted a wire as

thin as a hair, and closed the wound.

Kathleen opened a small wound

legs. The surgery had worked.

Kathleen found a secluded cage for the owl—a place where he could rest and recover in peace. She did not name the owl or spend much

For six weeks Kathleen let the owl's leg heal. She wanted to get him back to his family as soon as she could. In a burrowing owl family, both parents look after their young. Kathleen said she was sure that this owl's mate would already have started to raise her chicks. Sure enough, when Kathleen got to the owl's mound, she spotted a group of fuzzy chicks racing for cover.

She lowered the owl to the ground and released him. He took off without looking back. In two giant leaps he was on top of his mound, and he turned to glare at Kathleen with the same look she'd seen six weeks before.

"Now that you're home, you'll have to get to work. No more sitting around and being fed!"

The owl bobbed up and down. He lifted his wings and glared and hissed.

"Yes, I can see that you are well," Kathleen said, and she walked back to her truck.

to sleep.



- Which of these details from the passage provides the BEST evidence that Kathleen has experience working with owls?
 - Kathleen drove slowly down the highway.
 - O The owl lowered itself when Kathleen got closer to it.
 - O Kathleen stuffed the owl down the front of her shirt.
 - O The owl stood in solemn silence on the surgery table.
- What is the MAIN problem in this passage? Explain why Kathleen's job is important to solving this problem.

- Which of these sentences from the passage creates the MOST vivid image, or mental picture, for the reader?
 - O "She's a veterinarian, and I was with her one morning when her scouting paid off."
 - "It spread its twenty-four-inch wings and buzzed like a furious rattlesnake."
 - O "Birds become still when they cannot see where they are."
 - "In a burrowing owl family, both parents look after their young."



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- likes owls better than other animals
- O feels comfortable working with animals
- 11 What is the main message that the author of this passage MOST LIKELY wants to present to the reader?

How do Kathleen's actions reveal the MAIN message of the passage?

- 12 If Kathleen had spent more time with the owl after its surgery, the owl MOST LIKELY would
 - have lost its ability to fly
 - O have become more fearful
 - O not have healed so quickly
 - O not have returned to its family





Imagine that a few weeks AFTER the events described in this passage take place, you volunteer to work at Kathleen Ramsay's animal clinic. What is it like working with Kathleen? What do you do on your volunteer job?

Write an essay in which you describe your volunteer work at the clinic. In your essay, be sure to include at least TWO different details from the passage to describe what you do while volunteering at Kathleen Ramsay's animal clinic.

You may use the space below to plan your writing. Using the Editing Checklist on page 22, check your writing for correct paragraphing, grammar, spelling, punctuation, and the use of Standard English. Remember, your essay should be well organized and have an introduction, a body, and a conclusion.

NOTE: Only your writing on the lined pages in this book will be scored.

Pre-Writing/Planning



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Page 21

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Test 4

Now check your writing using this Editing Checklist.	

Editing Checklist

- Check your capitalization and punctuation.
- 2 Spell all words correctly.
- 3 Check for sentence fragments or run-on sentences.
- 4 Keep verb tense consistent.
- 5 Make sure subject and verb agree.
- Use words according to the rules of Standard English.
- Remember to paragraph correctly.



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Use only a Number 2 pencil to respond to the questions in this book. Responses written in pen CANNOT be scored.



If you see this symbol, you may use your reference sheet to help solve the problem.



If you see this symbol, you may NOT use a calculator to solve problems in the test.



If you see this symbol, you may use a calculator to solve problems in the test.



This symbol appears at the beginning of the sections that contain gridded-response problems.



If you see this symbol, use your ruler as a straightedge or to solve the problem.



If you see this symbol, use your protractor to solve the problem.

Test 7: Mathematics



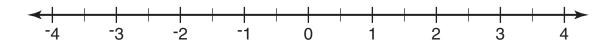
DO NOT WRITE HERE

Since you may receive partial credit for many of the problems, it is important to show ALL work in the spaces provided in this book. When you see the words **Show All Work**, be sure to

- show all the steps needed to solve the problem
- · make your handwriting clear and easy to read
- · write the answer on the answer line
- 1 Look at the numbers below.

$$-3$$
 $-1\frac{3}{8}$ 2.8 $\frac{6}{5}$ -0.2 3.75

Plot each of these numbers on the number line below. Write the number above each point plotted.





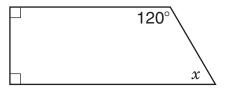
George is making a batch of cookies. The recipe states that he needs $\frac{3}{4}$ cup of sugar.

If George reduces the recipe to make half the number of cookies, how much sugar will he need?

Show All Work

Answer _____ cup

3 Look at the quadrilateral below.



On the lines below, explain how to determine the measure of angle \boldsymbol{x} without the use of a protractor.

What is the measure of angle x?

Answer _____ °

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4 As a part of her cell phone plan, Margaret can use 900 minutes each month without additional charges.

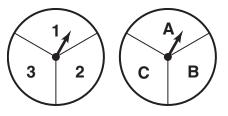
This month, Margaret has already used 684 of her minutes. She is charged \$0.35 for each additional minute over her limit of 900 minutes.

If Margaret uses 313 more minutes this month, how much will she be charged for minutes that go over her 900-minute plan?

Show All Work

Answer \$ _____

5 Gloria is playing a game that uses a number spinner and a letter spinner. Each spinner has three equal sections, as shown below.



In the box below, write all possible combinations of numbers and letters from the two spinners.

What is the probability that the number spinner will land on 2 and the letter spinner will land on C?

Answer _____

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Michael deposited \$163 into his savings account. He now has \$971 in his savings account.

On the line below, write an equation that can be used to show the amount of money (m) in Michael's savings account before his deposit.

Equation _____

Now solve the equation you wrote. How much money was in Michael's savings account before his deposit?

Answer \$_____

STOP! ____ STOP! ___ STOP! ___ STOP! ___ STOP!

Test 8: Mathematics



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Since you may receive partial credit for many of the problems, it is important to show ALL work in the spaces provided in this book. When you see the words **Show All Work**, be sure to

- show all the steps needed to solve the problem
- · make your handwriting clear and easy to read
- · write the answer on the answer line
- **1** Dominic measured the heights, in inches, of fourteen of his classmates. His results are shown below.

55 59 50 68 62 64 57 48 60 67 71 51 64 52

Plot Dominic's results on the stem-and-leaf plot below.

Student Heights

Stem	Leaf



40 inches

Square A

Square B

What is the ratio of the perimeter of Square A to the perimeter of Square B?

Show All Work

Answer _

What is the ratio of the area of Square A to the area of Square B?

Show All Work

Answer _

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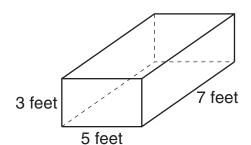
A restaurant ran out of green beans Friday night and sent an employee to the store Saturday morning to buy enough to last through the day. The restaurant uses 35 pounds of green beans each night. The green beans are sold in $2\frac{1}{2}$ -pound packages.

If each package costs \$2.49, how much did it cost the employee to buy the green beans? Assume there was no tax.

Show All Work

Answer \$ _____





Kira bought the rectangular-shaped box shown in the diagram below.

She wants to fill $\frac{2}{3}$ of the box with soil. Soil costs \$1.85 per cubic foot. How much will it cost Kira to buy the soil?

Show All Work

Answer \$ _



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5 The average weights, in pounds, of 9 different species of kangaroos in Australia are listed below.

70 71 71 72 73 80 83 85 88

What is the MEAN for this set of data?

Mean _____

What is the MODE for this set of data?

Mode _____

On the lines below, identify which measure, mean or mode, is more appropriate to use when describing the size of a kangaroo in Australia. Explain why the measure you chose is more appropriate.

Go	On	

6



Jennifer has two cardboard rectangles. One rectangle measures $\frac{1}{2}$ foot by $\frac{2}{3}$ foot. The other rectangle measures 3 feet by 2 feet.

What is the total area, in square feet, of the two rectangles?

Show All Work

Answer _____ square feet



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The age of an adult dog in "human years" (h) can be calculated using the formula

$$h = 3 \times (d - 2) + 25$$

where d is the age in dog years.

Using this formula, what will be the age in human years of a dog that is 8 years old in dog years?

Show All Work

Answer _____ years



ATTENTION! Please do not leave your punchouts in this book.



Use only a Number 2 pencil to respond to the questions in this book. Responses written in pen CANNOT be scored.



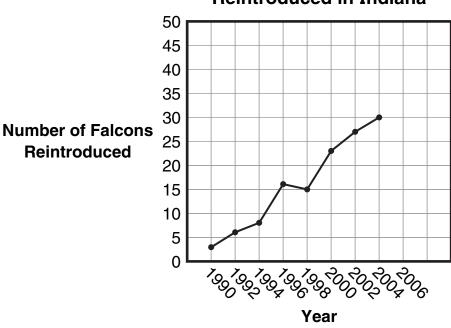
If you see this symbol, use your ruler as a straightedge or to solve the problem.

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Test 11

2 The graph below shows the number of peregrine falcons that have been reintroduced to the wild as part of a statewide program in Indiana.

Peregrine Falcons Reintroduced in Indiana



Describe the overall trend in the number of falcons reintroduced from 1990 to 2004.

Using the information in the graph, predict the number of falcons reintroduced in 2006.

Explain how you made this prediction.

Reintroduced



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- The list below describes interactions between several populations living in an ecosystem.
 - Dragonflies eat mosquitoes.
 - Frogs eat both dragonflies and mosquitoes.
 - Snakes eat frogs.
 - Hawks eat both snakes and frogs.

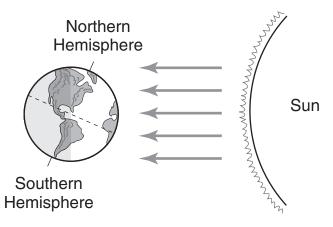
the FROG population.	
Describe a change in a DIFFERENT population that would have the OPPOSITE effect on the frog population.	

Describe how an increase in one of the other populations would affect





4 The diagram below shows how Earth's axis of rotation is tilted at a certain time of year.



Note: The figures are not drawn to scale.

Explain why the tilt shown in this diagram results in the Northern Hemisphere and Southern Hemisphere receiving different amounts of heat.

Describe how the seasons on Earth would be different if Earth's axis of rotation were NOT tilted.



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5 Fresh water is a resource that should be conserved and protected from pollution.

Give ONE specific example of how people can conserve fresh water.

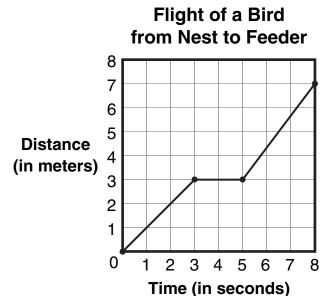
Give ONE specific example of how fresh water can become polluted by people.

5	Describe ONE function of nerve cells in the body.			
	Explain how muscle cells in the body interact with nerve cells.			

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7 The graph below shows the time it took for a bird to fly from its nest to a bird feeder.



Using the information in the graph, describe what the bird is doing in the period between 3 seconds and 5 seconds after it left its nest.

What is the speed of the bird, in meters per second, in the first 3 seconds of flight?

Answer _____ meters per second

8	Describe TWO different ways that microorganisms, such as bacteria
	can be HELPFUL to humans.

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٠,	,			

2)				
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ATTENTION! Please do <u>not</u> leave your punchouts in this book.



STOP! ____STOP! ___ STOP! ___ STOP!

ISTEP+ Grades 7 and 8 Mathematics Reference Sheet

Shape	Formulas for Area (A) and Circumference (C)
Triangle	$A = \frac{1}{2}bh = \frac{1}{2} \times base \times height$
Rectangle	$A = Iw = \text{length} \times \text{width}$
Trapezoid	$A = \frac{1}{2}(b_1 + b_2)h = \frac{1}{2} \times \text{sum of bases} \times \text{height}$
Parallelogram	$A = bh = base \times height$
Square	$A = s^2 = \text{side} \times \text{side}$
Circle	$A = \pi r^2 = \pi \times \text{radius} \times \text{radius}$ $C = 2\pi r = 2 \times \pi \times \text{radius}$ $\pi \approx 3.14 \text{ or } \frac{22}{7}$
Figure	Formulas for Volume (V) and Surface Area (SA)
Rectangular Prism	$V = lwh = length \times width \times height$ SA = 2lw + 2hw + 2lh $= 2(length \times width) + 2(height \times width) + 2(length \times height)$
General Prisms	$V = Bh = $ area of base \times height
FISHS	SA = sum of the areas of the faces

Conversions

1 yard = 3 feet = 36 inches

1 mile = 1,760 yards = 5,280 feet

1 acre = 43,560 square feet

1 hour = 60 minutes

1 minute = 60 seconds

1 liter = 1000 milliliters = 1000 cubic centimeters

1 meter = 100 centimeters = 1000 millimeters

1 kilometer = 1000 meters

1 gram = 1000 milligrams

1 kilogram = 1000 grams

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 pound = 16 ounces

1 ton = 2,000 pounds

Page 47

Equation of a Line

Slope-Intercept Form:

$$y = mx + b$$

where m = slope and b = y-intercept

Slope of a Line

Let (x_1, y_1) and (x_2, y_2) be two points in the plane.

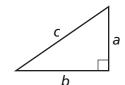
slope =
$$\frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$
 where $x_2 \neq x_1$

Distance Formula

$$d = rt$$

 $distance = rate \times time$

Pythagorean Theorem



$$a^2 + b^2 = c^2$$

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Temperature Formulas

$$C = \frac{5}{9}(F - 32)$$

 $^{\circ}$ C = $\frac{5}{9}$ (F - 32) $^{\circ}$ Celsius = $\frac{5}{9}$ × ($^{\circ}$ Fahrenheit - 32)

$$^{\circ}$$
F = $\frac{9}{5}$ C + 32

 $^{\circ}F = \frac{9}{5}C + 32$ $^{\circ}Fahrenheit = \frac{9}{5} \times ^{\circ}Celsius + 32$



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